

WHAT IS CLAIMED IS:

1 1. An aircraft component comprising an inner structure, a
2 leading edge (1) and a trailing edge (2), a top skin (4)
3 supported by said inner structure between said leading and
4 trailing edges, a bottom skin (5) supported by said inner
5 structure between said leading and trailing edges, said
6 aircraft component having a longitudinal axis (3) extending
7 from end to end of said aircraft component and a depth axis
8 (8) extending perpendicularly to and between said leading
9 edge (1) and said trailing edge (2), said aircraft
10 component further comprising at least one first ridge (6)
11 bulging outwardly in said top skin (4) and at least one
12 second ridge (7) bulging in said bottom skin (5) toward
13 said at least one first ridge (6), wherein said first and
14 second ridge begins in an area (9) of said trailing edge
15 (2) and extends toward said leading edge in the direction
16 of said depth axis (8), each of said first and second
17 ridges (6, 7) having a height (H) that is largest in said
18 trailing edge area (9), said height (H) of said first and
19 second ridges (6, 7) diminishing form said trailing edge
20 area (9) toward said leading edge (1).

1 2. The aircraft component of claim 1, wherein said aircraft
2 component has a depth (t) extending from said leading edge
3 (1) to said trailing edge (2) in a direction of said depth
4 axis (8), said first and second ridges (6, 7) having a

ridge length (L) in said depth direction, said ridge length (L) being shorter than one half of said depth (t).

3. The aircraft component of claim 1, wherein said first and second ridges (6, 7) begin at said trailing edge (2) and end centrally in said aircraft component.

4. The aircraft component of claim 1, wherein said aircraft component has a depth (t) extending from said leading edge (1) to said trailing edge (2) in a direction of said depth axis (8), said first and second ridges (6, 7) having a ridge length (L) in said depth direction, said ridge length (L) being longer than one half of said depth (t).

5. The aircraft component of claim 1, wherein said first and second ridges (6 and 7) taper toward a respective ridge end (6A, 7A) that is spaced from said leading edge (1) in the direction of said depth axis (8), whereby one ridge end (6A) is positioned in a spar area (15) of said aircraft component in said top skin (4) and the other ridge end (7A) is positioned in said bottom skin (5), respectively.

6. The aircraft component of claim 1, comprising a trailing edge area (9) extending along said trailing edge (2) and toward said leading edge, said first ridge (6) having a first ridge portion (6B) in said trailing edge area (9), said second ridge (7) having a second ridge portion (7B) in said trailing edge area (9), said first and second ridge

portions (6B, 7B) having a fitting, nesting configuration so that said second ridge portion (7B) fits snugly into said first ridge portion (6B) in said trailing edge area (9) along a width (W).

7. The aircraft component of claim 6, further comprising an interconnection between said first ridge portion (6B) and said second ridge portion (7B) in said trailing edge area (9).

8. The aircraft component of claim 7, wherein said interconnection is a rigid, permanent connection.

9. The aircraft component of claim 8, wherein said rigid, permanent connection is an adhesive bond connection along said width (W).

10. The aircraft component of claim 5, wherein at least one of said ridge ends (6A, 7A) is positioned on a line (L1) extending perpendicularly to said depth axis (8) in said spar area (15).

11. The aircraft component of claim 10, wherein both ridge ends (6A, 7A) are positioned on said line (L1).

12. The aircraft component of claim 1, wherein said first ridge (6) and said second ridge have a cross-sectional configuration resembling a parabola.

1 **13.** The aircraft component of claim 12, wherein said parabola
2 opens downwardly in a wing or elevator component or
3 backwardly in a tail fin component.

1 **14.** The aircraft component of claim 12, wherein said first and
2 second ridges have the configuration of a longitudinal
3 portion of an aerodynamically formed cone.

1 **15.** The aircraft component of claim 5, wherein said ridge ends
2 (6A, 7A) are formed as pointed tips.

1 **16.** The aircraft component of claim 1, comprising a plurality
2 of said at least one first ridge (6) and a corresponding
3 plurality of said at least one second ridge (7) to provide
4 pairs of first and second ridges, wherein a second ridge of
5 a pair is at least partly nested in a first ridge in said
6 pair of ridges, and wherein said pairs of ridges are spaced
7 from each other along said aircraft component at
8 predetermined spacings along said longitudinal axis.

1 **17.** The aircraft component of claim 16, wherein said
2 predetermined spacings are equal and/or unequal to one
3 another.

1 **18.** The aircraft component of claim 16, wherein both first and
2 second ridges forming a pair have cross-sectional
3 configurations which open downwardly or backwardly.

19. The aircraft component of claim 1, wherein each of said first and second ridges has an open end that begins at said trailing edge (2) or is spaced from said trailing edge.

20. The aircraft component of claim 1, wherein said aircraft component is any one component of the following aircraft components: a wing, a wing flap, an aileron, a rudder fin, a rudder tab, and an elevator flap.

21. The aircraft component of claim 1, wherein said first ridge (6) comprises a first ridge portion (6B) in said trailing edge area (9), a first ridge end (6A) opposite said first ridge portion (6B) and a first elongated ridge section (6C, 6D, 6E) between said first ridge end (6A) and said first ridge portion (6B), wherein said second ridge comprises a second ridge portion (7B) in said trailing edge area (9), a second ridge end (7A) opposite said second ridge portion (7B), and a second elongated ridge section (7C, 7D, 7E) between said second ridge end (7A) and said second ridge portion (7B), wherein said first ridge section (6C, 6D, 6E) has a first ridge line (6C), wherein said second ridge section has a second ridge line (6C), and wherein a spacing (VS) between said first and second ridge lines (6C, 7C) increases in a direction toward said first and second ridge ends (6A, 7A).

1 **22.** The aircraft component of claim 21, wherein said first
2 ridge portion (6B) and said second ridge portion (7B) are
3 intimately bonded to each other along a width (W) of said
4 trailing edge area (9).